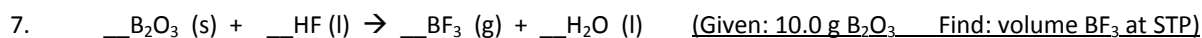
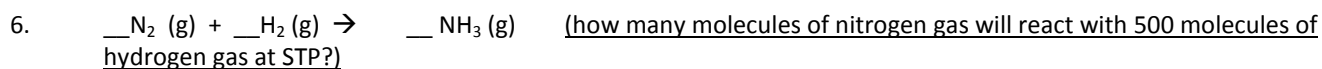
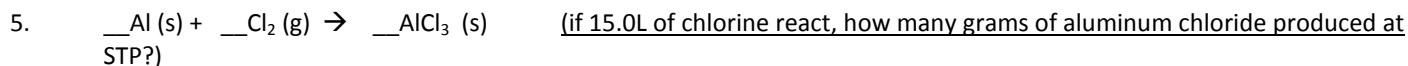
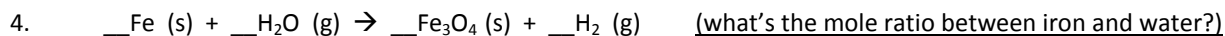
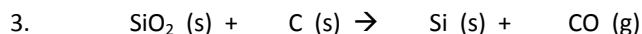
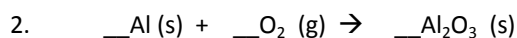
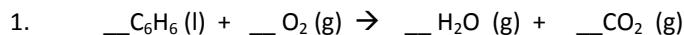


T01D01 – Moles, Formulas and Equations Practice

Name

Calculate the formula mass of each of the following compounds: **[SHOW ALL WORK]**sodium sulfate (Na_2SO_4)cobalt (III) chloride (CoCl_3)magnesium sulfate (H_2SO_4)Convert the following to moles: **[SHOW ALL Work]**1.22 kg of table salt, NaCl 16.65 g of glauher's salt, $\text{Na}_2\text{SO}_4 \cdot 12\text{H}_2\text{O}$ (that is 12 water molecules attached to each mole of glauher's salt)Convert the following to grams: **[SHOW ALL Work]**0.135 mmols of potassium phosphate (K_3PO_4)0.550 nmoles of sodium carbonate (Na_2SO_4)

8. $\text{BF}_3 (\text{g}) + \text{H}_2\text{O} (\text{l}) \rightarrow \text{HF} (\text{l}) + \text{H}_3\text{BO}_3 (\text{s})$ (Given: 10.0 g BF_3 Find: moles HF)
9. $\text{H}_3\text{BO}_3 (\text{s}) \rightarrow \text{B}_2\text{O}_3 (\text{s}) + \text{H}_2\text{O} (\text{l})$ (Given: 25.0 g H_2O formed Find: grams B_2O_3 formed)
10. $\text{NaNO}_3 (\text{s}) + \text{H}_2\text{SO}_4 (\text{l}) \rightarrow \text{Na}_2\text{SO}_4 (\text{s}) + \text{HNO}_3 (\text{g})$ (Given: 5.0 mol NaNO_3 Find: grams Na_2SO_4)
11. $\text{CaF}_2 (\text{s}) + \text{H}_2\text{SO}_4 (\text{l}) \rightarrow \text{CaSO}_4 (\text{s}) + \text{HF} (\text{g})$ (Given: 1×10^{34} molecules CaF_2 Find: volume of HF at STP)
12. $\text{N}_2\text{O} (\text{g}) \rightarrow \text{N}_2 (\text{g}) + \text{O}_2 (\text{g})$ (Given: 25 kg N_2O Find: molecules of N_2 and O_2)

Balance the following:

13. $\text{NH}_4\text{NO}_3 (\text{s}) \rightarrow \text{N}_2\text{O} (\text{g}) + \text{H}_2\text{O} (\text{g})$
14. $\text{H}_2\text{NCl} (\text{aq}) + \text{NH}_3 (\text{g}) \rightarrow \text{NH}_4\text{Cl} (\text{aq}) + \text{N}_2\text{H}_4 (\text{aq})$
15. $\text{CaC}_2 (\text{s}) + \text{H}_2\text{O} (\text{l}) \rightarrow \text{Ca}(\text{OH})_2 (\text{aq}) + \text{C}_2\text{H}_2 (\text{g})$
16. $\text{CaCN}_2 (\text{s}) + \text{H}_2\text{O} (\text{l}) \rightarrow \text{CaCO}_3 (\text{aq}) + \text{NH}_3 (\text{g})$
17. $\text{NaBH}_4 (\text{s}) + \text{H}_2\text{SO}_4 (\text{aq}) \rightarrow \text{B}_2\text{H}_6 (\text{g}) + \text{H}_2 (\text{g}) + \text{Na}_2\text{SO}_4 (\text{aq})$
18. $\text{H}_2\text{S} (\text{aq}) + \text{Cl}_2 (\text{aq}) \rightarrow \text{S} (\text{s}) + \text{HCl} (\text{aq})$
19. $\text{PbS} (\text{s}) + \text{H}_2\text{O}_2 (\text{aq}) \rightarrow \text{PbSO}_4 (\text{s}) + \text{H}_2\text{O} (\text{l})$
20. $\text{Ca}_3(\text{PO}_4)_2 (\text{s}) + \text{SiO}_2 (\text{s}) + \text{C} (\text{s}) \rightarrow \text{CaSiO}_3 (\text{s}) + \text{CO} (\text{g}) + \text{P}_4 (\text{s})$
21. $\text{SCl}_2 (\text{l}) + \text{NaF} (\text{s}) \rightarrow \text{SF}_4 (\text{g}) + \text{S}_2\text{Cl}_2 (\text{aq}) + \text{NaCl} (\text{s})$
22. $\text{SiO}_2 (\text{s}) + \text{BrF}_3 (\text{l}) \rightarrow \text{SiF}_4 (\text{g}) + \text{Br}_2 (\text{l}) + \text{O}_2 (\text{g})$
23. $\text{TiO}_2 (\text{s}) + \text{BrF}_3 (\text{l}) \rightarrow \text{TiF}_4 (\text{s}) + \text{Br}_2 (\text{l}) + \text{O}_2 (\text{g})$
24. $\text{LiC}_4\text{H}_9 (\text{s}) + \text{HCl} (\text{aq}) \rightarrow \text{LiCl} (\text{aq}) + \text{C}_4\text{H}_{10} (\text{g})$
25. $\text{IO}_2\text{F} (\text{s}) + \text{BrF}_3 (\text{l}) \rightarrow \text{IF}_5 (\text{l}) + \text{Br}_2 (\text{l}) + \text{O}_2 (\text{g})$